



# **SMI's Next Lap – Towards a Global Maritime Research, Knowledge and Innovation Hub**

# \$80M Funding Allocated by MPA for SMI Tranche 3

## Announcement of \$80M Funding for SMI Tranche 3

*Announced by SMS Chee Hong Tat at the SMI Forum 2021, the funding will be allocated by MPA for SMI's next 5 years.*

“ With this funding, SMI can continue to pursue its mission to grow Singapore as a leading global maritime research centre of excellence focusing on **Next Generation Port, Smart Shipping, and Green Technologies.** ”





# Global Maritime Knowledge & Innovation Hub



## Global Hub Port



Singapore is a premier global hub port, connected to 600 ports in over 120 countries, giving users reliable, value-added and cost-efficient marine services and facilities.

## International Maritime Centre



The development of Singapore as an International Maritime Centre (IMC) is centred on its vision to be the Global Maritime Hub for Connectivity, Innovation and Talent.

## Global Maritime Knowledge & Innovation Hub

New drivers of growth for Maritime Singapore through knowledge, research and innovation to transform sea transport sector as Singapore's hub port growth matures in 2040 and beyond

## Global Maritime Knowledge & Innovation Hub



World-class  
R&D Talent  
& Knowledge



Global  
Thought  
Leadership



Future-ready  
Maritime  
Capabilities

Talent

Knowledge

Technology

## Vision

*A world-class global maritime knowledge hub driven by research and innovation*

## Mission

*To establish Singapore as a leading global maritime research centre of excellence in Next Generation Port, Smart Shipping, and Green Technologies*

## Key Maritime R&D Players



IHLs



RIs



Start-ups



Tech Providers



Enterprise

# Charting Ahead: SMI 2032 – The Next 10 Years

## (1 Jan 2022 – 31 Dec 2031)

**What we want to achieve**  
(Strategic objectives)

Refreshed

### Vision

*A world-class global maritime knowledge hub driven by research and innovation*

### Mission

*To establish Singapore as a leading global maritime research centre of excellence in Next Generation Port, Smart Shipping, and Green Technologies*

### 5-Year R&D Plan (2022-2026)

**How we will do it**  
(Strategy)

#### SMI 3<sup>rd</sup> Tranche

#### Driving R&D towards Greater Impact

Talent

Knowledge

Technology

#### 12 Desired End-State Capabilities

##### Achieve A Fully Automated Port



- Fully automated terminal operations
- Smart port services
- Orchestrated operations and smart maintenance



##### Anchor Shipping Alliance Hubs in Singapore

- Smart fleet operations
- Maritime Autonomous Surface Ships
- Human-autonomy coupling/teaming
- Smart harbour operations
- Navigational & Operational Safety



##### Build A Sustainable Port & Shipping Industry

- Vessel electrification
- Future marine fuels
- Shipboard carbon capture, utilisation & storage
- Circular economy for terminals

**Our key thrusts**  
(R&D approach)

1. **Grow** pipeline of industry-ready R&D talent and domain experts
2. **Expand** knowledge frontiers to collaborate with global think tanks and RIs
3. **Elevate** CoEs to global research centres with deep domain expertise
4. **Advance** R&D projects into higher TRLs to support translation
5. **Establish** Singapore as a key research node in a global maritime R&D network

# SMI Tranche 3 Overview

## Driving R&D towards Greater Impact

Talent

Knowledge

Technology



### Talent Development Remains A Key Focus

- ❖ Grow a pipeline of **Industry-Ready R&D Talent and Domain Experts**
- SMI to fill the talent gap in key areas such as digitalisation & decarbonisation through attachment & training to re-skill and up-skill
- **[New]** Programmes **Maritime R&D Scholarship Programme** and **Maritime Continuing Education & Training Programme**
- Indicators – RSEs / New Maritime Talents



### Multi-pronged Approach towards Knowledge Creation

- ❖ Expand **new knowledge areas** through 'soft' research to complement 'hard' R&D
- Support for technoeconomic & policy/strategy related studies to provide direction for R&D investments, enablers beyond R&D outcomes & complementary knowledge
- **[New]** Grant Calls for **Global Port Development & Supply Chain shifts**
- Indicators – RSEs, Projects/Initiatives



### Collaboration with Key Stakeholders to drive R&D towards higher TRLs

- ❖ Advance R&D projects into Higher TRL levels to **support Technology Translation**
- Validation of IP/R&D with maritime industry and focus R&D outcomes on technology translation and adoption
- **[New]** Scheme to **Advance R&D Tech**
- Indicators – RSEs, Tech Deployment, Projects/Initiatives, Ind. Expenditure, Patents



### Cross-Cutting Initiatives that Support Talent, Knowledge & Technology

- ❖ **Elevate CoEs** to Global Research Centres with Deep Domain Expertise
- CoEs to aim for higher impact outcomes, Key Node for Maritime R&D in various capability areas and contributions to global maritime network
- **COE 2.0 renewals in 2022 & 2023**
- Indicators – RSEs, Tech Deployment, Projects/Initiatives, Ind. Expenditure, Patents



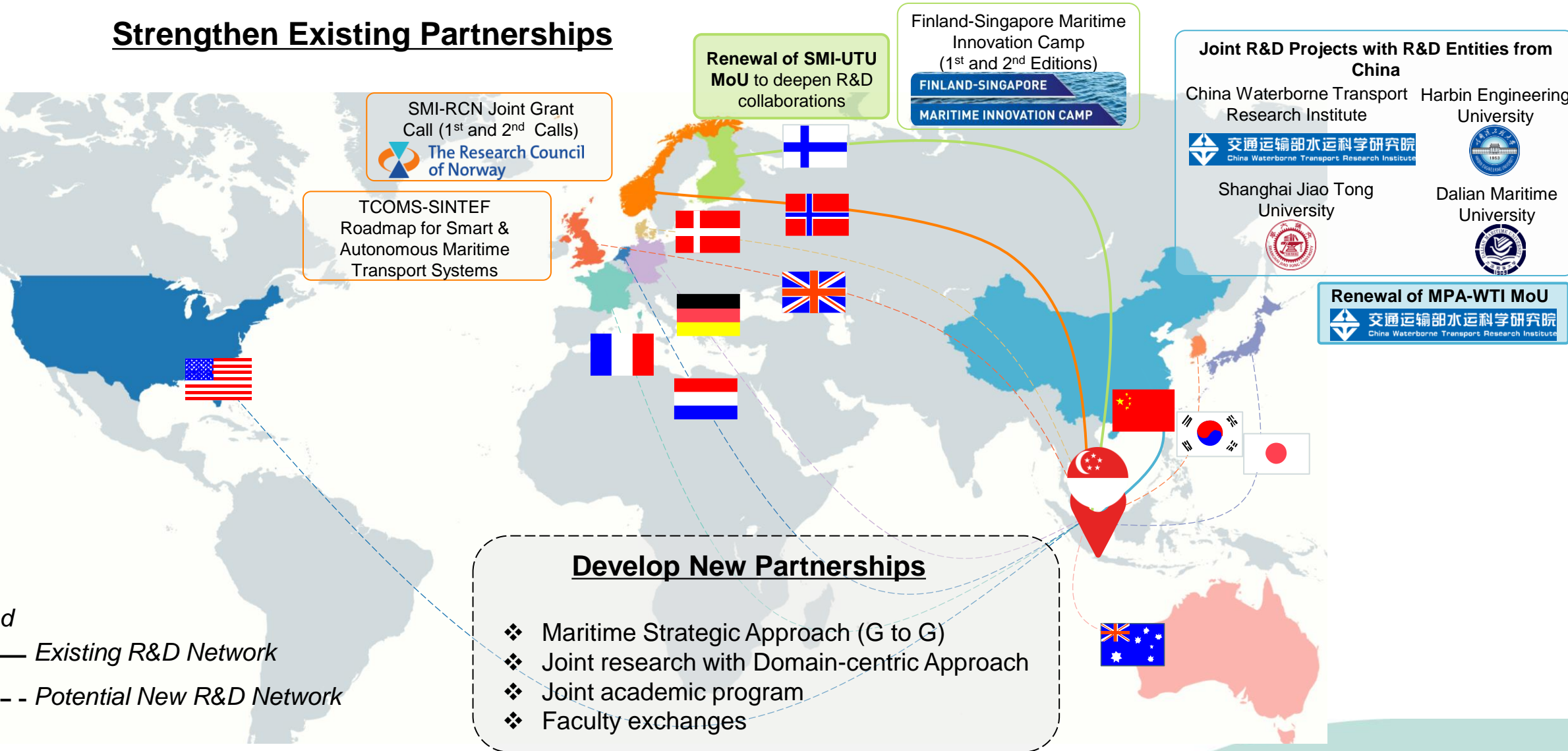
- ❖ Expand **Global Maritime R&D Collaboration Network**
- Strengthen existing partnerships with Norway, Finland and China and build new networks with France, Denmark, Netherlands, US, UK, Japan, South Korea (aim to increase from 3 to 10 partners)
- **[Expanded]** **Joint International R&D Programmes & Projects**
- Indicators – RSEs, International Collaboration Projects / Partners





# Expand Global Maritime R&D Collaboration Network

## Strengthen Existing Partnerships



### Legend

- Existing R&D Network
- Potential New R&D Network

# 5-Year Key R&D Initiatives/Projects

2022

2023

2024

2025

2026

MESD  
Phase 2C4NGP  
Phase 2Automated  
Quay CraneGrant  
CallSMI R&D  
Scholarship

CEMS Phase 2

Projects under  
MTP2.0 (RIE 2025)SMI-WTI  
Joint ProjectsMaritime CET  
Programme (SP)IAP Meeting  
(TBC)  
(ITM2.0,  
RIE2025)Advance  
Maritime  
R&D TechGrant  
CallNUS CML  
Phase 2.0SMU MBOT  
Phase 2.0Completion &  
Review MTP 1.0NUS CIL  
Next PhaseR&D Roadmap  
2035SMI 3<sup>rd</sup> Tranche  
Mid-Term  
ReviewNew Projects  
With  
Int. PartnersGrant  
CallNew CEAOPS  
Phase 2.0MTP 2.0  
Mid-Term ReviewIAP Meeting (TBC)  
(ITM2.0, RIE2025)Grant  
CallSMI 3<sup>rd</sup> Tranche  
ReviewNew Initiative (s)  
by IAP



*Thank you!*